CLAIMS

1. A display apparatus that reproduces an image by applying light from a backlight to a display panel and controlling light transmittance states of pixels provided, on the display panel, in a matrix manner,

wherein,

the display panel includes a micro lens array including a group of micro lenses corresponding to the pixels,

the pixels on the display panel are disposed in a matrix manner and along a first direction and a second direction orthogonal to the first direction, and a pitch of the pixels in the first direction is longer than a pitch of the pixels in the second direction, and

a directivity of the light traveling in the first direction is higher than a directivity of the light traveling in the second direction.

2. The display apparatus as defined in claim 1, wherein, an intensity-half-width angle of the light traveling in the first direction is not more than ±20°.

3. The display apparatus as defined in claim 1, wherein, the micro lenses are lenticular lenses each collecting light traveling in the first direction.

4. The display apparatus as defined in claim 1, wherein, in the first direction, a converging angle of each of the micro lenses is within a range between 20° and 30°.

5. The display apparatus as defined in claim 1, wherein, each of the micro lenses is a minute lenses group that one-to-one corresponds to a pixel on the liquid crystal layer and can collect light traveling in the first direction and the second direction.

6. The display apparatus as defined in claim 1, wherein, a deviation between a focal point of each of the micro lenses and the pixels on the display panel is in a range not more than 1/3 of a distance between the micro lenses and the pixels.

7. The display apparatus as defined in claim 6, wherein, while the deviation is in said range, the focal point is closer to the micro lenses than to the pixels.

8. The display apparatus as defined in claim 1, wherein, the micro lenses are manufactured by performing the steps of:

(a) applying photosensitive resin, which is a material of the micro lenses, to a surface of the display panel, the

surface being on a backlight side;

(b) exposing the photosensitive resin material to light, through pixel apertures of the display panel; and

(c) developing the photosensitive resin material that has been subjected to exposure.

9. The display apparatus as defined in claim 1, wherein,

the display panel is provided with a linear polarization plate, and the light emitted from the backlight is linearly polarized, and

a main polarization direction of light entering the linear polarization plate is in parallel to a transmission axis of the polarization plate.

10. The display apparatus as defined in claim 9, wherein, the main polarization direction is in parallel to the first direction.

11. The display apparatus as defined in claim 9, wherein, a polarization cross angle between the transmission axis of the linear polarization plate and the main polarization direction is not more than a range of ±20°.

12. The display apparatus as defined in claim 9, wherein,

between the display panel and the backlight, a polarization rotation element for causing the polarization cross angle to be within said range is provided.

13. The display apparatus as defined in claim 1, wherein, a polarization plate, which allows linearly-polarized light emitted from the backlight and vibrating in one direction to pass through, is attached on a surface of the backlight, the surface being on a display panel side.

14. The display apparatus as defined in claim 1, wherein, the display panel is a liquid crystal panel.

15. An electronic device, comprising the display apparatus defined in claim 14.

16. A display apparatus that reproduces an image by applying light from a backlight to a display panel and controlling light transmittance states of pixels provided, on the display panel, in a matrix manner,

wherein,

the display panel includes a micro lens array including a group of micro lenses corresponding to the pixels,

the pixels on the display panel are disposed in a matrix manner and along a first direction and a second direction

orthogonal to the first direction, and a pitch of the pixels in the first direction is longer than a pitch of the pixels in the second direction,

an intensity-half-width angle of the light is not more than ±20° in the first direction and the second direction, and

the light traveling in the first direction is collected by the micro lens array.

17. The display apparatus as defined in claim 16, wherein, the display panel is a liquid crystal panel.

18. An electronic device, comprising the display apparatus defined in claim 16.